

SOKOLOV, A.M., kand.sel'skokhozyaystvennykh nauk; SOKOL'VA, R.A.

Role of the osmotic pressure of cell sap in the resistance of
apple trees to apple aphid (Aphis pomi DeGeer). Trudy TSGL 5:
377-383 '53. (MIR 12:11)

(Apple--Disease and pest resistance)
(Plant lice)

SOKOLOV, A.M., kand.sci'skokhozyaystvennykh nauk

Transpiration and the resistance of plants to fungus diseases
and aphids. Trudy TSGL 5:384-387 '53. (MIRA 12:11)
(Plants--Disease and pest resistance)

SOKOLOV, A.M.

Observations on the lackey moth in the central zone of the
European U.S.S.R. (1950-1952). Zool.zhur. 34 no.2:329-333
Mr-Ap '55. (MLRA 8:6)

1. Penzenskiy sel'skokhozyaystvennyy institut.
(Moths)

COUNTRY	:	USSR	P
CATEGORY	:	General and Specialized Zoology. Insects. Harmful Insects and Acarids.	
PERIOD	:	1956	
COLLECTOR	:	Sokolov, A. M.	
INST.	:	Fedza Agricultural Institute	
TITLE	:	On the Problem of the Study of the Ecology of Grain Mites.	
ORIG. PUBL.	:	Ob. tr. Penzensk. s. - Kh. Iz-ta, 1956, vyp. 1, 172-187	
ABSTRACT	:	The flour mite (<i>M</i>) dies in the presence of 15% moisture content of wheat whereas the common hairy* and predatory ** m live even with the moisture content of 12-10%. In the oat seeds, the flour <i>M</i> multiplies with the moisture content of 12.24-14% and higher, and in hard wheat with >15%. In rye and wheat seeds with undamaged coats, <i>K</i> died even with the moisture content of 16-17%. with the lowering of the moisture content of the substrate below the optimum, hypopusi accumulate and larvae, telsonyphids and prosopons die. The mobile hypopusi of the flour <i>M</i> leave the warming seed whereas their other mobile stages perish. The higher	
Card: 1/2	*	(<i>Tyroglyphus farinae</i>)	
	**	(<i>Glycyphagus destructor</i>)	
	***	(<i>Chewistus annulatus</i>)	

SOKOLOV, A.M.

Formation conditions of the hypopial stage of the flour mite Tyroglyphys
farinae L. and Calaglyphys rodionovi AZ.[with English summary in insert].
Zool.zhur. 35 no.12:1844-1848 D '56.
(MLRA 10:1)

1. Plodrovovoshchnoy institut imeni I.V. Michurina.
(Mites)

SOKOLOV, A.M., kand. sel'skokhoz. nauk

Using Michurin's methods to produce disease- and pest-resistant
fruit and berry varieties. Trudy TSGL 6:525-552 '57.
(MIRA 12:10)
(~~Export~~--Disease and pest resistance)

SOKOLOV, A.M., kand. sel'skokhoz. nauk; SOKOLOVA, R.A., aspirant

Mentor effect on the disease and pest resistance of fruit plants.
Trudy TSGL 6:553-566 '57. (MIRA 12:10)
(Fruit--Disease and pest resistance)
(Grafting)

SOKOLOV, A.M.

USSR / General and Specialized Zoology. Insects.
Insect and Mite Posts.

P

Abs Jour : Ref Zhur .. Biol., No 10, 1958, No 44882

Author : Sokolov, A.M.
Inst : Institute of Fruit and Vegetables imeni I.

V. Michurin.

Title : The Effect of Cold Temperatures on Grain Mites

Orig Pub : Tr. Plodovo-voshchn. in-ta im. I.V. Michurina,
1958, 9, 303-315.

Abstract : Not only the hypopi and the eggs of the flour
mite, but also its active developmental stages
endured cold of -20° and -30° and less; such
cold, however, very seldom occurred in grain sto-
rage. Predatory mites and the hypopi of Rodie-
nov and of the common hairy mites were relati-
vely resistant to low temperatures; the mites

Card 1/2

55

SOKOLOV, A.M.

Pear leaf blister mite (*Eriphyes pyri* (Pagenst) Mal.) and control
measures in Michurin District, Tambov Province. Zool. zhur. 39 no.4:
521-526 Ap '60. (MIRA 13:11)

1. I.V. Michurin Fruit and Vegetable Institute, Michurinsk.
(Michurinsk District--Gall mites)

SOKOLOV, A.M., dotsent

Resistance of apple to the fruit rot caused by *Monilia fructigena*
(*Stromatinia*) Aderh. Sbor. nauch. trud. Ivan. sel'khoz. Inst.
no.19:63-67 '62.

Resistance of apple to the blight caused by *Phyllosticta mali*
Prill. et Deb. Ibid.:68-77 (MIRA 17:1)

1. Kafedra selektsii, plodoovoschevodstva, zashchity rasteniy
(zav. - dotsent V.S. Pavlenkov) Ivanovskogo sel'skokhozyaystvennogo
instituta.

SOKOLOV, A.M.

Stenosis of the pylorus and formation of pathologic cholecysto-
pyloric fistula in cholelithiasis. Khirurgija no.3:81 Mr '54.
(MLRA 7:5)

1. Iz kafedry operativnoy khirurgii Leningradskogo sanitarno-gigienicheskogo meditsinskogo instituta i khirurgicheskogo otdeleniya bol'nitsy (zav.prof. A.Yu.Sozon-Yaroshevich).
(CHOLELITHIASIS, complications,
*cicatricial stenosis of pylorus & cholecystopyloric fistula)
(PYLORUS, stenosis,
*cicatricial, in cholelithiasis, with cholecystopyloric fistula)
(GALLBLADDER, fistula,
*cholecystopyloric, in cholelithiasis with cicatricial stenosis
of pylorus)

SOKOLOV, A.M., kandidat meditsinskikh nauk

Muscle function disorders of the abdominal wall after certain
laparotomy incisions [with summary in English, p.160] Vest.khir.
77 no.4:58-64 Ap '56. (MLRA 9:8)

1. Iz kafedry operativnoykhirurgii (zav.-prof. A.Yu.Sozon-Yaroshevich
[deceased]) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo
instituta. Leningrad, Kuznechnyy per., d. 19/21, kv. 46.
(ABDOMINAL WALL, surg.
postop. musc. funct. disord. after some incisions)

SOKOLOV, A.M.

Topographical anatomy and experimental data on incisions of
the rectus abdominis. Trudy LSGMI 39:264-275 '58.
(MIRA 12:8)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomi
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo insti
tuta (zav.kafedroy - z.d.n.prof.A.Yu.Sozon-Yaroshevich [deceased]).
(ABDOMINAL WALL, surgery,
rectus section, exper. & anat. aspects (Rus))

SOKOLOV, A.M.

Experimental data on the vascular factor in ulcerous lesions
of the stomach. Trudy LSGMI 39:294-302 '58. (MIRA 12:8)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomi-
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo insti-
tuta (zav.kafedroy - z.d.n., prof.A.Yu.Sozon-Yaroshevich
[deceased]).

(PEPTIC ULCER, physiology,
vasc. factors (R_{18}))

(STOMACH, blood supply,
vasc. factors in peptic ulcer (R_{us}))

SOKOLOV, A.M., dotsent

Immediate results of operative replacement of the large arteries
and veins of the extremities under experimental conditions. Trudy
LSGMI 59:93-102 '60. (MIRA 14:9)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomii
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta
(zav. kafedroy - prof. K.A.Grigorovich).
(BLOOD VESSELS--TRANSPLANTATION)
(EXTREMITIES, LOWER--BLOOD SUPPLY)

SOKOLOV, A.M., dozent

Oscillographic changes during by-pass anastomosis of the femoral artery in experimental conditions. Khirurgiia 37 no.5:51-57 My '61. (MIRA 14:5)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. K.A. Grigorovich) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(OSCILLOGRAPHY) (FEMORAL ARTERY)

KOSTOCHKIN, O.I.; PETRZHAK, K.A.; SOKOLOV, A.M.; SHPAKOV, V.I.

A 4- π counter for measuring the radioactivity of gaseous products. Prib. i tekhn. eksp. 9 no. 3:52-55 My-Je '64
(MIRA 18:1)

USSR/Mathematics - Partial Differential Equations

FD-2744

Card 1/1 Pub 41 - 5/16

Author : Sokolov, A. M., Moscow

Title : Regarding the question of the field of applicability of the momentless theory to the calculation of shells of negative curvature.

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 5, 85 — 101, May 1955

Abstract : Purely analytic discussion on where it is possible to apply the momentless theory to calculation of shells of negative curvature, in the study of mathematics. Diagrams and formulae. Four references, all USSR.

Institution :

Submitted : April 12, 1955

SOLODOV, V. N. Card library-lath ci -- (disc) "Research in the area of the application
to calculation of
of the momentous theory in computing the outline of a negative gauss ~~cone~~ with
~~various center factor". Ms. 1956. 6 pp 22 cm. (Min Higher Ed USSR. Nos Order of Lenin
state UNIVERSITY in Chernogolovka). 100 copies
(22, 22-57, 11)~~

b

FUKS, Boris Abramovich, prof.; BAKHSHIYAN, F.A., prof.; ANDRIYEVSKIY, F.P., dotsent; MIROSHKOV, R.K., dotsent; NAGAYEVA, V.M., dotsent; SOBOLEV, N.A., dotsent; SOKOLOV, I.M., dotsent; SHAPIRO, Z.Ya., dotsent; SHUSHARA, G.N., dotsent; KAPLAN, I.B., starshiy prepodavatel'; POLOZKOV, A.P., starshiy prepodavatel'; POLOZKOV, D.P., starshiy prepodavatel'; TOPAZOV, N.G., starshiy prepodavatel'; SHCHERBAKOV, S.S., starshiy prepodavatel'; Prinimali uchastiye: GOL'DENVEYZER, A.L., prof.; BARANENKOV, G.S., dotsent; BERMAN, Ya.R., dotsent; LUNTS, G.L., dotsent; SHESTAKOV, A.A., dotsent; GMURMAN, V.Ye., starshiy prepodavatel'; Rozental', M.I., assistant; SOKOLOVA, L.A., assistant. ROZANOVA, G.K., red.izd-va; KUZ'MINA, N.S., tekhn.red. (Continued on next card)

FUKS, Boris Abramovich--(continued) Card 2.

[Higher mathematics; methodological instructions and control assignments for the students of correspondence technical schools of university level] Vysshiaia matematika; metodi-cheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaochnykh vysshikh tekhnicheskikh uchebnykh zavedenii. Izd.9. Pod red. B.A.Fuksa. Moskva, Gos.izd-vo "Sovetskaiia nauka," 1958. 179 p. (MIRA 12:9)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya.

Metodicheskoye upravleniye.

(Mathematics--Study and teaching)

KUL'BEYKIN, Mikhail Pavlovich; SOKOLOV, Aleksandr Nikolayevich; NIKOLAYEVA,
I.N., redaktor izdatel'stva; SHITS, V.P., tekhnicheskiy redaktor

[What we learned about the lumber industry in Sweden] Nashe znakomstvo
s lesnoi promyshlennost'iu Shvetsii. Moskva, Goslesbumizdat, 1956.

58 p.

(MLRA 9:11)

(Sweden--Lumbering)

SOKOLOV, A.N.

Ruler attachment for tenoning parts under an angle from 10° to 70°.
Sbor.vnedr.rats.pred. v les.i meb.prom. no.2:38-59 '59.
(MIRA 13:8)

1. Pestovskiy lesopil'no-derevoobrabatyvayushchiy kombinat.
(Joinery)

SOKOLOV, A.N.

Improving the feed mechanism of the "Val'met" four-sided planer.
Sbor.vnedr.rats.pred. v les. i meb.prom. no.2:43-44 '59.
(MIRA 13:8)

1. Pestovskiy lesopil'no-derevoobrabatyvayushchiy kombinat.
(Planing machines)

14(5)

SCV/132-50-8-12/18

AUTHOR: Sokolov, A.N.

TITLE: 3100 Meters per Month With a ZIF-300 Drilling Rig

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 8, pp 49-51 (USSR)

ABSTRACT: The work of two outstanding drilling brigades is described in this article. The achievements of the brigades, headed respectively by the senior drilling masters Butyrskikh and Sidor, are shown in tables 1-3. In September, 1958, the Brigade of the senior master Butyrskikh drilled 3,108 meters per rig per month (264% of the plan). This brigade (according to the plan) had to drill 11,476 meters in 1957 and the first 9 months of 1958. Instead, 24,689 meters were drilled (215.1% of the plan). The brigade is almost completing the 1960 plan. The drilling was done by a ZIF-300 drilling rig using the ZIF-200/40 pump. There are 3 tables.

ASSOCIATION: Severo-Kazakhstanskoye geolupravleniye (North-Kazakhstan Geological Administration)

Card 1/1

SOKOLOV, A.N.,

Determination of the toughness of textile fabrics in stretching.

Report presented at the 13th Conference on high molecular compounds
Moscow, 8-11 Oct 62

SOKOLOV, A. N.

137-58-5-9129

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 54 (USSR)

AUTHOR: Sokolov, A. N.

TITLE: Development of Electrosmelting Steel in St.Petersburg-Petrograd-Leningrad (Razvitiye elektroplavki stali v Peterburge-Petrograde-Leningrade)

PERIODICAL: V sb., Metallurgiya. Moscow-Leningrad, AN SSSR, 1957,
pp 38-45

ABSTRACT: A first, single-phase, electric-arc furnace (EF) with a 3.5-t capacity was placed in operation at the Obukhov plant on April 27, 1911; a second, three-phase, EF with a capacity of 6-7 t began its operation at the Putilov plant in 1915. A total of 3,500 t of electric steel had been smelted in the year of 1913. The next stage in development of electrometallurgy (EM) began in 1927 when several modern EF's were installed in Leningrad plants; in 1941 30 arc and induction furnaces were in operation in these plants. The two most important events in the development of EM in Leningrad are: the technology developed at the Kirov plant for smelting of stainless steel in EF's under chamotte slag, and the first All-Union Symposium of 1939 on

Card 1/2

137-58-5-9129

Development of Electrosmelting (cont.)

stakhanovite methods of electrosmelting of steel. Seven topcharging EF's with capacities ranging from 5 to 10 t were installed in the postwar years. The author describes briefly the basic peculiarities of modern technology of electrosmelting of steel and points out that it is practicable to exceed the nominal capacity of small and medium EF's by 1.5-2.2 and 1.4-2.0 times, respectively. Employment of acid EF's and improvements in the technology of smelting of steel in such furnaces are mentioned, together with the establishment of rational electrical regimens for such processes and the employment of O₂, also the expansion of the assortment of steels manufactured in EF's in this manner. The author emphasizes the expediency of expanding the EM of Leningrad and of substituting EF's for open-hearth furnaces.

A.Sh.

1. Steel--Production 2. Electric arc furnaces--Applications

Card 2/2

SOKOLOV, A. N.

The following is among dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

"Electrical Operation of Arch Furnaces." 10 June 1946. Mathematical relationships of the "curves of characteristics" of arc furnaces are described; the assumptions made in plotting the "curves of characteristics" are examined; the factors which determine the selection of the values of the work current are pointed out. The differences between the actual and "theoretical" operating conditions of arc furnaces are characterized and the factors which determine these differences are examined.

SO: M-1048, 28 Mar 56

SOKOLOV, A. N.

Sokolov, A. N. - "The productive capacity and the consumption of electric power in electric-arc steel-smelting furnaces," Sbornik nauch.-tekhn.rabot (Vsesoyuz. nauch. inzh.-tekhn. o-vo metallurgov, Leningr. otd-niye), Issue 1, 1949, p. 75-92, -
Bibliog: 6 items

SO: U-5240,17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

PLYATSKIY, V.M.; MEDNIKOV, Z.I., inzhener, retsenzent; SOKOLOV, A.N.,
kandidat tekhnicheskikh nauk, redaktor; DLUGOKANSKAYA, Ye.A.,
tekhnicheskiy redaktor

[Crystallization under piston pressure] Kristallizatsiya pod
porshnevym davleniem. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
stroitel'noi lit-ry, 1950. 59 p.
(Crystallization) (Founding)

(MLRA 8:6)

SOKOLOV, A.N. and GABERTSETTEL', A. I.

Plavka Chuguna v Vagranke, published by Mashgiz, Moscow, 1950

EWX Sum #148

SOKOLOV, A. N.

Smelting cast-iron in cupola-furnaces. Moscow, Gos. nauchnotekhn. Izd-vo mashinostroit. lit-ry, 1950. 179 p. (50-34231)

TS231.S65

Sokolov, A. N.

Technology

Accurate founding. Red. A. N. Sokolov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1952 /1953, Uncl.

SOKOLOV, A.N.; DESNITSKIY, V.P., inzhener, retsenzent; ZAMORUYEV, V.M
kandidat tekhnicheskikh nauk, redaktor; NIKITIN, P.S., inzhener,
redaktor literatury po tekhnologii mashinostroyeniya; POL'SKAYA, R.G.,
tekhnicheskiy redaktor.

[Rapid smelting of steel in electric arc furnaces] Skorostnye plavki
stali v dugovykh elektropechakh. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1952. 174 p. [Microfilm] (MLRA 7:10)

1. Leningradskoye otdeleniye Mashgiza, zaveduyushchiy redaktsiyey
(for Nikitin)
(Electric furnaces) (Steel--Electrometallurgy)

ZAMORUYEV, V.M.; SOKOLOV, A.N., redaktor; RODCHENKO, N.I., tekhnicheskiy
redaktor

[High speed steelmaking at the Kirov plant] Skorostnoe stalevarenie
na Kirovskom zavode. [Leningrad] Leningradskoe gazetno-zhurnal'noe
i knizhnoe izd-vo, 1953. 88 p. [Microfilm] (MLRA 7:10)
(Kirov--Steel industry)
(Steel industry--Kirov)

SOKOLOV, A.N.; LIPNITSKIY, A.M.

[Economizing of metal in founding; from the practice of Leningrad shops] Ekonomiya metalla v liteinom proizvodstve; iz opyta Lenigradskikh zavodov. Leningradskoe gazetno-zhurnal'noe i knizhnoe izd-vo, 1953. 88 p. (MIRA 8:4)
(Leningrad—Founding)

SOKOLOV, A.N., kandidat tekhnicheskikh nauk, redaktor.

[Technological aspects of cast metal parts] Tekhnologichnost' litykh detalei. Leningrad, Gos.nauchno-tekhn. izd-vo mashino-stroit. lit-ry [Leningradskoe otd-nie] 1953. 159 p. (MIRA 7:2)

1. Vsesoyuznoye nauchnoye inzhenerno-teknicheskoye obshchestvo liteyshchikov. Leningradskoye otdeleniye. (Founding)

SHATSKIKH, M.I.; KUTKIN, S.F.; SOKOLOV, A.N., kandidat tekhnicheskikh nauk,
redaktor.

[Preparation of molding and core mixtures in foundry work] Prigotov-
lenie formovochnykh i sterzhnevnykh smesei v liteinom proizvodstve.
Leningrad, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry [Leningrad-
skoe otd-nie] 1953. 179 p.
(MLRA 7:1)
(Founding)

BORBLIK, I. G.; GAVRILOV, V. A.; DOKOLIN, A. N.

Blast Furnaces

Organizing the work of lining blast furnaces with carbon blocks. Stroi. prom. 31, No. 3
1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

SOKOLOV, A. N.

SOKOLOV, A.N., kandidat tekhnicheskikh nauk, redaktor.

[Improving the quality of castings] Uluchshenie kachestva otli-vok. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 198 p. (MLRA 7:8)

1. Vsesoyuznoye nauchnoye inzhenerno-teknicheskoye obshchestvo litsyshchikov. Leningradskoye otdeleniye.
(Founding)

PLYATSKIY, V.M., laureat Stalinskoy premii; SOKOLOV, A.N., kandidat tekhnicheskikh nauk, redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Casting under high pressure] Liteinye protsessy s primeneniem vysokikh davlenii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 223 p.
(Die casting)

BUTALOV, V.A.; SOKOLOV, A.N., kandidat tekhnicheskikh nauk, retsenzent;
TKACHEV, K.I., inzhener, redaktor; PETERSON, M.M., tekhnicheskiy
redaktor

[Substitutes for metals and alloys in short supply] Zameniteli
defitsitykh metallov i splavov. Izd. 2-e, dop. i perer. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 236 p.
[Microfilm] (MLRA 8:3)

(Metals, Substitutes for)

NIKIFOROV, Vikentiy Markianovich; RYBIN, V.V., inzhener, retsenzent;
SOKOLOV, A.N., kandidat tekhnicheskikh nauk, redaktor; AZAROV, A.S.,
kandidat tekhnicheskikh nauk, redaktor; LEYKINA, T.L., redaktor
izdatel'stva; POL'SKAYA, R.G., tekhnicheskiy redaktor

[Short course in the technology of metals] Kratkii kurs tekhnologii
metallov. Izd. 2-oe, perer. Moskva, Gos. nauchno-tekhn. izd-vo
mashinostroit. lit-ry, 1956. 342 p. (MLRA 9:10)
(Metals)

SOV/137-57-10-18853

Translation from Referativnyy zhurnal Metallurgiya, 1957, Nr 10, p 60 (USSR)

AUTHOR: Sokolov, A. N.

TITLE: Utilization of Oxygen in the Electrical Smelting of Steel (Primeneniye kisloroda pri elektroplavke stali)

PERIODICAL: V sb.: Progressivn. tekhnol. v litern. proiz-ve. Leningrad, Lenizdat, 1956, pp 20-38

ABSTRACT. An examination is made of the use of O₂ in the melting of the charge during the oxidizing period to speed the removal of C and in the reducing period to accelerate the heating and fusion of the alloying additives (such as Fe-Cr). The experiences of the Leningrad plants show that utilization of O₂ diminishes the duration of the melting period by 20-35 minutes in 3-5 arc-type furnaces, and saves 80-145 kWh/t of electric energy. The corresponding consumption of O₂ is 13-22 m³/t. The overall saving by O₂ utilization fluctuates in the limits of 11 and 28 rubles/t. It is noted that in the melting of carbon and low-alloy steel the utilization of O₂ in the oxidizing period reduces the duration both of that period and of the period of reduction by one-half to two-thirds, reduces electrical energy consumption by 30-60 kWh/t, and diminishes electrode consumption; yet the O₂ consumption is small (3.5-5 m³/t). If

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SOV/137-57-10-18853

Utilization of Oxygen in the Electrical Smelting of Steel

the O₂ supply is increased, the indices may be improved even further. The utilization of O₂ is particularly effective in melts employing high-chromium steel scrap. The results are low loss of Cr by combustion, a sharp diminution in heat time (20-30%) and in electrical energy consumption (from 700-850 to 400-550 kwh/t). It is important that the O₂ blow be run with the steel at high temperature and with an elevated Si content therein. It is also advisable that the Cr content of the steel before the blow be < 12% and that C contents be somewhat above the usual (0.2-0.25%). To reduce the burn-off of Cr when O₂ is used during the melting period of a charge with high high-chromium steel scrap, it is recommended that the O₂ blow begin after half the mix has fused, and that the lance be immersed into the bath of liquid steel. It is noted that the cost of O₂ is still high, particularly in cylinders, and this inhibits wide use thereof in the electrical smelting of steel. It is noted that a reduction in the consumption of steel lances may be attained by raising the working pressure of the O₂ to 12-13 atm gage pressure and perhaps even higher. It is recommended that watercooled nozzles be used instead of plain tubing (as is done in foreign countries and in particular on the basis of the favorable experience of the metallurgists of Czechoslovakia).

Card 2/2

A.S.

Sokolov A. N.

Call Nr: TS 236 .S68

AUTHORS: Sokolov, A. N., Lipnitskiy, A. M.

TITLE: Mechanization of Trimming and Cleaning Operations on Castings (Mekhanizatsiya rabot po obrubke i ochistke lit'ya)

PUB. DATA: Mashgiz, Moscow-Leningrad, 1957, 183 pp., 5,000 copies

ORIG. AGENCY: None

EDITOR: Shapiro, O. E., Eng.; Chief Ed. of Leningrad Mashgiz
Branch: Bol'shakov, S. A., Eng.: Publ. House Ed.:
Borodulina, I. A.; Tech. Ed.: Sokolova, L. V., Reviewer:
Sverdlov, V. I., Eng.

PURPOSE: The book is intended for workers in trimming departments and should serve to improve their qualification. It may also be useful to foremen and metallurgists in foundries.

COVERAGE: Mechanized methods of trimming and cleaning castings, as well as the equipment used for these purposes, are discussed. The book presents an outline of the technological processes for various types of casting and also

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Ch. I. Casting Alloys

1. Casting properties of alloys

6

2. Mechanical properties

APPROVED FOR RELEASE: 08/25/2000s CIA-RDP86-00513R001651930010-5"

12

Ch. II. Technological Process of Trimming and Cleaning of Castings

Card 2/8.

PHASE I BOOK EXPLOITATION

899

Mekhanizatsiya i avtomatizatsiya liteynogo proizvodstva (Mechanization and Automatic Control of Founding Processes) [Leningrad] Lenizdat, 1957. 224 p. 3,000 copies printed.

Ed.: (title page): Sokolov, A.N.; Ed.: (inside book):
Yemel'yanova, Ye. V.; Tech. Ed.: Rodchenko, N.I.

PURPOSE: This book is intended for engineers and technical personnel working in the founding industries.

COVERAGE: The book presents experience gained by several Leningrad plants in the field of mechanization and automation of metal casting processes. It is stated that in total production of castings the Soviet Union is catching up with the U.S.A., and in production of steel castings the USSR is already leading. Soviet production of castings in 1955 amounted to 11 million tons, 2 million of which were steel castings. No personalities are mentioned. There are 33 references, 29 of which are Soviet, 3 English, and 1 German.

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Mechanization and Automatic (Cont.)

899

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AVAILABLE: Library of Congress (TS 233.S6)

Card 3/3

G0/nah
12-12-58

SOKOLOV, A.N.

Metalizing the surfaces of insulators. T. N. Khoperiva,
L. A. Kulikova, and A. N. Sokolov. U.S.S.P. 110,214.
Feb. 25, 1958. The surface to be metalized is first sensitized
with a soln. of $PdCl_2$, and then plated by Ni in an electrolytic
bath.

Distr: 4E4

VYSHEMIRSKIY, Mikhail Mikhaylovich; SOKOLOV, A.N., kand. tekhn. nauk,
retsenzent; KOLACHEVA, O.V., inzh., red.; VARKOVETSAYA, A.I.,
red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Metal molder and caster] Formovshchik. Moskva, Gos. nauchno-
tekhn. izd-vo mashinostroit. lit-ry, 1958. 210 p. (MIRA 11:10)
(Founding)

SHUB, Il'ya Yefimovich, kand. tekhn. nauk; SOROKIN, Pavel Vasil'yevich,
kand. tekhn. nauk; SHAMIRGON, S.A., dots., retsenzent; SOKOLOV, A.N.,
dots., kand. tekhn. nauk; red.; CHIPAS, M.A., red. izd-va;
SPERANSKAYA, O.V., tekhn. red.

[Precision casting] Tochnoe lit'e po vyplavliaemym modeliam. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 229 p.
(Precision casting) (MIRA 11:7)

25(1)

PHASE I BOOK EXPLOITATION SOV/3167

Sokolov, Aleksey Nikolayevich

Osnovy liteynogo proizvodstva (Fundamentals of Foundry) Leningrad.
Lenizdat, 1958. 338 p. (Series: V pomoshch' molodym rabochim)
10,000 copies printed.

Ed.: Ye. V. Yemel'yanova; Tech. Ed.: I. M. Tikhonova.

PURPOSE: This book is intended for young foundry workers. It may also be useful to students taking intermediate and advanced courses in machine design.

COVERAGE: The present status of foundry production and the essentials of casting processes are discussed. Basic information is given on casting methods, mold preparation, properties of casting alloys, and treatment of castings. No personalities are mentioned. There are 15 references, all Soviet.

TABLE OF CONTENTS:

From the Author

3

Card 1/4.

SOKOLOV, A.N., kand. tekhn. nauk, dots.; MORGULEV, S.A., inzh.; IVAN'KO,
V.F., inzh.

"Most satisfactory operating conditions of steel smelting electric
arc furnaces" by IU. E.Efroimovich. Reviewed by A.N.Sokolov, S.A.
Morgulev, V.F.Ivan'ko. Stal' 18 no. 6:529-531 Je '58. (MIRA 11:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii i "Dneproproststal'".
(Electric furnaces)
(Efroimovich, IU, E.)

PHASE I BOOK EXPLOITATION

SOV/4979

Gribov, M. L., and A. N. Sokolov

Mekhanizatsiya i avtomatizatsiya v staleplavil'nom proizvodstve (Mechanization and Automation in Steelmaking) [Leningrad] Lenizdat, 1959. 126 p. 3,000 copies printed. (Series: Opyt novatorov leningradskoy promyshlennosti)

Ed.: Ye. V. Yemel'yanova; Tech. Ed.: P. S. Smirnov.

PURPOSE: This booklet is intended for workers, foremen, and engineers in the steel industry.

COVERAGE: The authors discuss the experiences of Leningrad steel mills in mechanizing and automating their open-hearth and electric-arc furnaces. The experiences of mills in other cities are examined with a view toward determining their usefulness to the mills of the Leningrad economic region. No personalities are mentioned. There are 10 references, all Soviet.

TABLE OF CONTENTS:

Card 1/5

KOBYLYANSKIY, G.I., red. [deceased]; SKOBNIKOV, K.M., kand.tekhn.
nauk, retsenzent; SOKOLOV, A.N., kand.tekhn.nauk, red.;
SPERANSKAYA, O.V., tekhn.red.

[Mechanization and automatization of labor consuming
processes in foundries] Mekhanizatsiia i avtomatizatsiia
trudoemkikh protsessov v liteinom proizvodstve. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 226 p.
(MIRA 12:9)

(Founding) (Automatic control)

BUTALOV, Vladimir Aleksandrovich; VARSHAVSKIY, M.I., inzh., retsentent
[deceased]; SOKOLOV, A.N., dotsent, kand.tekhn.nauk, red.;
VARCOVETSKAYA, A.I., red.izd-va; SHCHETININA, L.V., tekhn.red.

[Patternmaker; reference manual] Model'shchik; spravochnoe
posobie. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry,
1959. 300 p.

(Patternmaking)

(MIRA 12:4)

LIPNITSKIY, Abram Markovich; GABERTSETEL', A.I., inzh., retsenzent;
~~SOKOLOV, A.N.~~, kand.tekhn.nsuk, red.; LEYKINA, T.L., red.
Izd-va; KONTOROVICH, A.I., tekhn.red.

[Melting of cast iron and of nonferrous metal alloys] Plavka
chuguna i splavov tsvetnykh metallov. Moskva, Gos.nauchno-
tekhn.izd-vo mashinostroit.lit-ry, 1960. 178 p. (MIRA 14:4)

(Iron founding) (Nonferrous metals--Founding)

NIKIFOROV, Vikentiy Markianovich; RYBIN, V.V., inzh., retsenzent;
LEYKIN, A.Ye., inzh., retsenzent; SOKOLOV, A.N., dotsent, kand.
tekhn.nauk, red.; BORODULINA, I.A., red. Izd-va; SHCHETININA,
L.V., tekhn.red.

[Brief course on the technology of metals] Kratkii kurs tekhnologii metallov. Izd.4., perer. i dop. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1960. 368 p. (MIRA 13:12)
(Metals) (Metalwork)

ADRIANOVA, V.P.; ANDREYEV, T.V.; ARANOVICH, M.S.; BARSKIY, B.S.; GROMOV, N.P.;
GUREVICH, B.Ye.; DVORIN, S.S.; YERMOLAYEV, N.F.; ZVOLINSKIY, I.S.;
KABLUKOVSKIY, A.F.; KAPELOVICH, A.P.; KASHCHENKO, D.S.; KLIMOVITSKIY,
M.D.; KOLOSOV, M.I.; KOROLEV, A.A.; KOCHINEV, Ye.V.; LESKOV, A.V.;
LIVSHITS, M.A.; MATYUSHIMA, N.V.; MORZOZOV, A.N.; POLUKAROV, D.I.;
RAVDELI, P.G.; ROKOTYAN, Ye.S.; SMOLYARENKO, D.A.; SOKOLOV, A.N.;
USHKIN, I.N.; SHAPIRO, B.S.; EPSHTEYN, Z.D.; AVRUTSKAYA, R.F., red.
izd-va; KARASEV, A.I., tekhn.red.

[Brief handbook on metallurgy, 1960] Kratkii spravochnik metallur-
ga, 1960. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i
tsvetnoi metallurgii, 1960. 369 p. (MIRA 13:7)
(Metallurgy)

sov/5396

PHASE I BOOK EXPLOITATION

Sokolov, Aleksey Nikolayevich

Ratsional'nyye rezhimy raboty dugovykh staleplavil'nykh pechey
(Efficient Operational Regimes of Steelmaking Arc Furnaces)
Moscow, Metallurgizdat, 1960. 484 p. Errata slip inserted.
4,200 copies printed.

Ed.: S. A. Farbman; Ed. of Publishing House: M. I. Chaykun;
Tech. Ed.: P. G. Islent'yeva.

PURPOSE: This book is intended for technical personnel in electric steelmaking plants, laboratories, and scientific-research and planning organizations; it may also be used by students specializing in this field at schools of higher education.

COVERAGE: Methods for establishing efficient operational regimes for electric steelmaking arc furnaces are given, along with practical results of their application in furnaces with a nominal capacity of 0.5 - 40 tons. Generalized relationships

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Efficient Operational (Cont.)

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are stated for evaluating the operational indices of modern arc furnaces. These relationships serve as a basis for finding methods of improving arc furnaces. No personalities are mentioned. There are 75 references: 53 Soviet, 10 German, 7 English, and 5 French.

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84088

S/181/60/002/009/029/036
B004/B056

9.4177

AUTHORS:

Konorov, P. P., Sokolov, A. N.

TITLE:

Electrical Conductivity and Photoconductivity of Lead Oxide
Layers Treated With Sulfur, Selenium, and Tellurium

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2240-2242

TEXT: It was the aim of the present work to check two western papers (Refs. 1,2) on the infrared sensitivity of PbO layers which had been obtained by the precipitation of PbO vapor at 10^{-4} torr onto cooled glass bases, and had been treated with sulfur vapor. The layers used by the authors had a resistivity of $10^9 - 10^{10}$ ohm·cm and were insensitive to light. The temperature dependence of the conductivity of these layers at 400°C corresponded to an activation energy of 1.48 - 1.52 ev (Fig. 1). When the layers were heated to 450°C for 5-10 min in air, a distinct photosensitivity was found in the visible spectral range (Fig. 2), and the activation energy rose to 2 - 2.2 ev (Fig. 1). Either the ready PbO layers were then treated with S, Se, or Te vapor at 10^{-4} torr, or the oxide layer was sputtered onto a glass base at 10^{-4} torr in the atmosphere

Card 1/3

Electrical Conductivity and Photoconductivity of Lead Oxide Layers Treated With Sulfur, Selenium, and Tellurium

of these vapors. The infrared sensitivity was obtained by subsequent heating to 250°C for 2 - 3 minutes in air. Both methods led to the same results. Samples treated with sulfur vapor had a resistivity of only

$10^5 - 10^6$ ohm.cm. The temperature dependence of conductivity between -100° and + 100° C exhibited a section with impurity conductivity (Fig. 1). The photoconductivity maximum was in the visible region of the spectrum, but besides, there was also infrared sensitivity (up to 30% of the maximum sensitivity in the visible) which extended to 2 - 2.2 μ (Fig. 2). PbO samples treated with selenium vapor behaved in a similar manner, but their infrared sensitivity was lower. No noticeable infrared sensitivity was obtained by means of tellurium vapor. Resistivity remained unchanged. The large atomic diameter of tellurium prevents it from being embodied in the PbO lattice. The authors thank Academician A. A. Lebedev and Assistant L. P. Strakhov for discussions. There are 2 figures and 2 references.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

Card 2/3

84088

Electrical Conductivity and Photoconductivity of S/181/60/002/009/029/036
Lead Oxide Layers Treated With Sulfur, Selenium, B004/B056
and Tellurium

SUBMITTED: January 11, 1960

✓

Card 3/3

SOKOLOV, Aleksey Nikolayevich; LEBEDEV, K.P., kand. tekhn. nauk, dots.,
retsenzent; LIPNITSKIY, A.M., red.; ROTACH, T.M., red.izd-va;
PETERSON, M.M., tekhn. red.

[Foundry alloys used in the manufacture of machinery] Liteinyye
splavy, primenyaemye v mashinostroenii. Pod obshchei red. A.M.
Lipnitskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-iy, 1961. 137 p. (Bibliotekha liteishchika, no.1)
(MIRA 14:9)

(Machinery industry) (Foundries—Equipment and supplies)

OBOLENTSEV, Fedor Dmitriyevich; GULYAYEV, B.B., doktor tekhn. nauk,
prof., retsenzent; SOKOLOV, A.N., kand. tekhn. nauk, dots., red.;
VARKOVETSKAYA, A.I., red. izd-va; BARDINA, A.A., tekhn. red.

[Quality of cast surfaces] Kachestvo litykh poverkhnostei. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 181 p.
(MIRA 14:9)

(Surfaces (Technology)) (Founding)

DESNITSKIY, Vladimir Porfir'yevich [deceased]; Prinimali uchastiye:
KATUGIN, S.A.; GROMOVA, K.P., tekhnolog; DESNITSKAYA, T.K.;
SOKOLOV, A.N., dots., kand. tekhn. nauk, retsenzent;
LEVANDOVSKIY, S.N., inzh., red.; BORODULINA, I.A., red. izd-va;
POL'SKAYA, R.G., tekhn. red.

[Making alloyed steel castings for the manufacture of heavy
electric machinery] Proizvodstvo legirovannykh stal'nykh ot-
livok dlia energomashinostroeniia. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1961. 196 p. (MIRA 15:1)

1. Glavnyy metallurg Nevskogo mashinostroitel'nogo zavoda im.
Lenina (for Katugin). 2. Nevskiy mashinostroitel'nyy zavod im.
Lenina (for Gromova).
(Steel castings) (Electric machinery industry)

PHASE I BOOK EXPLOITATION

SOV/5648

Sokolov, Aleksey Nikolayevich, ed.

Mekhanizatsiya i peredovaya tekhnologiya liteynogo proizvodstva
(Mechanization and Advanced Processing in Foundries) [Leningrad]
Lenizdat, 1961. 236 p. 2,000 copies printed.

Ed. : Ye. V. Yemel'yanova; Tech. Ed. : I. M. Tikhonova.

PURPOSE: This collection of articles is intended for technical personnel, foremen, and skilled workmen of foundries. It may also be of use to staff members engaged in the mechanization of production operations.

COVERAGE: The collection contains articles discussing the experience of a number of Leningrad plants and engineering and design organizations in mechanizing foundry processes and in applying advanced techniques to the manufacture of castings. No personalities are mentioned. Some

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Mechanization and Advanced (Cont.)

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articles are accompanied by references. References are all Soviet.

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- Mednikov, Z. G. Application of the Group-Processing Method in Making Blanks by the Die Casting and Die Forging of Molten Metal 160
- Desnitskiy, V. P. (deceased). Heat-Resistant Steel Castings in Power-Plant Constructions 172
- Kremer, M. A. Determination of Sizes and Economic Efficiency of Exothermic Risers for Steel Castings 188
- El'tsufin, S. A. Cast Rotor Blades for Gas-Turbine Compressors 203
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Mechanization and Advanced (Cont.)

SOV/5648

Kononov, M. N. Patterns With an Epoxy-Resin Base

229

AVAILABLE: Library of Congress (TS233. S55)

Card 5/5

VK/wrc/bc
11-15-61

DONSKOY, Aleksandr Vasil'yevich; KULYASHOV, Sergey Mikhaylovich;
KRYLOV, V.N., doktor tekhn. nauk, retsenzent; SOKOLOV, A.N.,
kand. tekhn. nauk, red.; ZHITNIKOVA, O.S., tekhn. red.

[Electrothermics] Elektrotermiya. Moskva, Gos. energ. izd-
vo, 1961. 311 p. (MIRA 15:2)
(Electric furnaces) (Induction heating)

PHASE I BOOK EXPLOITATION SOV/5458

Girshovich, Naum Grigor'yevich, Doctor of Technical Sciences, Professor, ed.

Spravochnik po chugunnomu lit'yu (Handbook on Iron Castings) 2d ed., rev. and enl. Moscow, Mashgiz, 1961. 800 p. Errata slip inserted. 16,000 copies printed.

Reviewer: P. P. Berg, Doctor of Technical Sciences, Professor; Ed.: I. A. Baranov, Engineer; Ed. of Publishing House: T. L. Leykina; Tech. Eds.: O. V. Speranskaya and P. S. Frumkin; Managing Ed. for Literature on Machine-Building Technology (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This handbook is intended for technical personnel at cast-iron foundries. It may also be of use to skilled workmen in foundries and students specializing in founding.

COVERAGE: The handbook contains information on basic problems in the modern manufacture of iron castings. The following are discussed: the composition and properties of the metal; the making of molds; special casting methods; the charge preparation; melting Card 1/1

Handbook on Iron Castings

SOV/5458

and modifying the cast iron; pouring, shaking out, and cleaning of castings; heat-treatment methods; and the inspection and rejection of castings. Information on foundry equipment and on the mechanization of castings production is also presented. The authors thank Professor P. P. Berg, Doctor of Technical Sciences, and staff members of the Mosstankolit Plant, headed by the chief metallurgist G. I. Kletskin, Candidate of Technical Sciences, for their assistance. References follow each chapter. There are 287 references, mostly Soviet.

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Card 8/11

GALKIN, Mikhail Fedorovich; SOLNTSEV, Yury Porfir'yevich; SEROV,
Gennadiy Vladimirovich; SOKOLOV, A.N., red.; KATSNEL'SON,
N.Ye., red.izd-va; GVIPTS, V.L., tekhn. red.

[Improved procedure for the smelting of 1Kh18N9TL steel]
Usovershenstvovanie tekhnologii vyplavki stali 1Kh18N9TL
Leningrad, 1962. 20 p. (Leningradskii dom nauchno-
tekhnicheskoi propagandy. Obmen peredovym opytom. Seriya:
Liteinoe proizvodstvo, no.4) (MIRA 15:10)
(Chromium-nickel steel—Metallurgy)

URT'YEV, Viktor Petrovich; LUR'YE, Vitol'd Samar'yevich; ISAYEV,
Al'bert Semenovich; ORLOV; Nikolay Il'ich; TSYPLUKHIN, Petr
Gavrilovich; SOKOLOV, A.N., red.; SHILLING, V.A., red.izd-va;
BELOGUROVA, I.A., tekhn. red.

[Vacuum arc furnace] Dugovaya vakuumnaia pech'. Leningrad, 1962.
25 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Ob-
men peredovym opyтом. Seria: Liteinoe proizvodstvo, no.5)
(MIRA 16:2)

(Electric furnaces) (Vacuum metallurgy)

SOKOLOV, Aleksey Nikolayevich; MALYSHEV, S.A., red.; LARIONOV, G.Ye.,
tekhn. red.

[Saving of electric power in electric-arc steel smelting
furnaces] Ekonomika elektroenergii pri eksploatatsii dugo-
vykh staleplavil'nykh pechei. Moskva, Gosenergoizdat, 1962.
102 p. (Biblioteka elektrotermista, no.10) (MIRA 15:11)
(Electric furnaces) (Electric power)

NEKHENDZI, Yulian Arkad'yevich; SOKOLOV, A.N., red.

[Effect of vacuuming on the properties of cast alloys;
stenographic record of lectures] Vliianie vakuumirovaniia
na svoistva splavov v litom sostoianii; stenogramma lektsii.
(MIRA 17:5)
Leningrad, 1963. 41 p.

SOKOLOV, Aleksey Nikolayevich; MEDNIKOV, D.M., inzh., retsenzent;
VARKOVENTSKAYA, A.I., red, izd-va; PETERSON, M.M., tekhn.
red.

[Rapid smelting of steel in electric-arc furnaces] Skorost-
nye plavki stali v dugovykh elektropechakh. Izd.2., perer.
i dop. Moskva, Mashgiz, 1963. 271 p. (MIRA 16:4)
(Steel--Electrometallurgy)

NIKIFOROV, Vikentiy Markianovich; RYBIN, V.V., inzh., retsenzent;
LEYKIN, A.Ye., inzh., retsenzent; SOKOLOV, A.N., dots.,
kand. tekhn. nauk, red.; DENINA, I.A., red.izd-va;
SHCHETININA, L.V., tekhn. red.

[Brief course on the technology of metals] Kratkiy kurs
tekhnologii metallov. Izd.4., perer. i dop. Moskva, Mash-
giz, 1963. 368 p.
(Metallurgy) (Metalwork)

SHAMRAY, V.F.; FRIDLYANDER, I.N.; SOKOLOV, A.N.

Studing transformations during the crystallization of alloys
in the system aluminum - copper - lithium. Issl. splav. tsvet.
(MIRA 16:8)
met. no.4:100-107 '63.

(Aluminum-copper-lithium alloys—Metallography)
(Phase rule and equilibrium)

MISHKINICH, Nakhil' Iosifovna, inzh. - tekhn.ek; GUPMAN, A. Vsevit
Genrikhovich, inzh.; GARSHIN, Anatoliy Petrovich, inzh.;
GURVATSKAYA, Lelzaliya Lazarevna, inzh.; SOKOLOV, A.N., red.

[Technology of the oxidation and heat treatment of electrical steel and magnetic circuit cores] Tekhnologija oksidirovaniia i termicheskoi obrabotki elektrotekhnicheskoi stali i serdechnikov magnitoprovodov. Leningrad, 1964. 26 p.
(MIRA 17:9)

L 41155-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) MJW/JD/GS
ACCESS:ON NR: AT4048342 S/0000/64/000/000/0047/0049

AUTHOR: Pakhomov, A. I.; Sokolov, A. N.

TITLE: The variation of the gas content in steel smelted in arc furnaces with electromagnetic stirring

SOURCE: AN SSSR. Komissiya po tekhnologii mashinostroyeniya. Gazy v litom metalle (Gases in cast metals). Moscow, Izd-vo Nauka, 1964, 47-49

TOPIC TAGS: steel smelting, cast steel, gas saturation, arc furnace, electromagnetic stirring, oxygen adsorption, nitrogen adsorption, hydrogen adsorption

ABSTRACT: The purpose of the authors was to determine the effect of magnetic stirring on the change in the hydrogen, oxygen and nitrogen content during the reduction period, as applicable to alloy steel melts in arc furnaces with a capacity of 40 and 80 tons. The pencil-shaped hydrogen-containing samples were placed in a divided mold, water-hardened and then placed in a Dewar flask with liquid nitrogen (steel E3A) or solid carbon dioxide (steel 12KhMF), where they were stored until analysis. Analysis of the samples took place no later than 12 hours after their selection, and was by the vacuum-heating method at a temperature of 710-720C. The discrepancy between parallel samples did not exceed $\pm 0.1 \text{ cm}^3/100 \text{ g}$. Before the sample was taken, the bath was stirred either by means of electro-

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magnetic stirring (EMS) or by metal rabbles (in the melts without EMS). A graph is given which shows the change in hydrogen content during the reduction period in melts with and without EMS. Other graphs illustrate the dependence of the hydrogen increment during the reduction period on the duration of EMS, as well as the dependence of the nitrogen content before yield on the same factor. It was found that after EMS had been started, the hydrogen increment was slowed and then either ceased or fell off toward the end of the smelting. In the melts without electromagnetic stirring, an increment in the hydrogen content was observed during the entire period of reduction. The authors also indicate that extended and uninterrupted EMS during the reduction period makes it possible to obtain steel with a lower hydrogen content. Moreover, with the proper duration of electromagnetic stirring during the reduction period, a lower nitrogen content in the steel may be achieved than in the case of melts without EMS. In this way, the authors also obtained data characterizing the effect of the duration of electromagnetic stirring, or rabbling, during the reduction period on the oxygen content in the metal. With EMS in operation for 30-35 minutes, the quantity of oxygen removed during this period is 1.5 times as high in melts obtained with EMS than in those without this method of mixing. Data presented in the article regarding the oxygen content in type-E3A steel before yield (removal from the furnace) indicates that, with extended EMS (35 minutes), steel is obtained having an oxygen content one order of magnitude lower than in melts processed without electromagnetic stirring. Orig.

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ACCESSION NR: AT4048342

art. has: 1 table and 4 figures.

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ASSOCIATION: none

SUBMITTED: 20May64

ENCL: 00

SUB CODE: MM

NO REF Sov: 001

OTHER: 002

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SOKOLOV, A.N.

Automatic control of steel smelting arc furnaces operating under
efficient conditions. Trudy IPI no.253:79-93 '65.

(MIRA 18:8)

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Pay strict attention to the technology of manufacturing reinforced concrete ties. Put' i out. khoz. no. 8:26-27 Ag '58. (MIRA 11:8)
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MELENT'YEV, L.P., kand.tekhn.nauk; SHOLOKHOVA, A.N.. SOKOLOV,
A.N., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Track maintenance on reinforced concrete ties] Tekushchee
soderzhanie puti na zhelezobetonnykh shpalakh. Moskva, Gos.
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S-0 '56. (MIRA 10:1)
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SOKLOV, A.N.

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1. Institut psichologii APN RSFSR, Moskva.
(Speech) (Language and languages—Study and teaching)

SOKOLOV, A.N.

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of the solution of problems. Vop. psichol. 7 no.č:77-92 N-D
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1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR, Moskva.
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